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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/535,076	05/13/2005	Diane Elsie Hall	BP9861-00	1916
4249	7590	12/10/2008		
CAROL WILSON BP AMERICA INC. MAIL CODE 5 EAST 4101 WINFIELD ROAD WARRENVILLE, IL 60555			EXAMINER GOLOBOY, JAMES C	
			ART UNIT 1797	PAPER NUMBER
			NOTIFICATION DATE 12/10/2008	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/535,076	Applicant(s) HALL, DIANE ELSIE	
	Examiner James Goloboy	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16, 19-21, 25-41, 45-47, 49-58 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16, 19-21, 25-41, 45-47, 49-58 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's amendments filed 9/26/08 overcome the rejections set forth in the office action mailed 4/1/08. New grounds of rejection over the references of record, necessitated by the amendments, are set forth below.

Double Patenting

2. Applicant is advised that should claim 19 be found allowable, claim 20 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k). Claims 19 and 20 have been amended to both depend on claim 16, and are therefore identical. The examiner recommends that claim 20 be cancelled.

Claim Rejections - 35 USC § 103

3. Claims 16, 21, 25-27, 29-41, 45-54, and 56-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chamberlin in view of Alcorn.

In column 2 lines 42-61, Chamberlin discloses a method of operating an internal combustion engine comprising using a fuel and lubricating the engine with a low-sulfur lubricating oil. In column 14 lines 17-19 Chamberlin discloses that the engine can be a diesel engine, and in column 16 lines 40-44 discloses that the diesel fuel can be a low-

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sulfur diesel fuel. In column 3 lines 25-29 Chamberlin discloses that the engine can include a particulate trap. The method of operating a diesel engine of Chamberlin therefore meets the limitations of claim 16. While Chamberlin does not specifically discuss reducing the emissions of nucleation mode particles, Chamberlin discloses the claimed method of using a low-sulfur fuel in combination with a low-sulfur lubricant, and would therefore also reduce emissions of nucleation mode particles, including those with diameters such as those recited in claims 21 and 40-41.

In column 4 lines 54-62, Chamberlin discloses that the sulfur concentration of the lubricating oil falls within the ranges recited in claims 48-51. In column 4 lines 28-30 Chamberlin teaches that the lubricating oil is free of additives comprising zinc and phosphorus, and is therefore free of ZDDP, meeting the limitations of claims 52-54. In column 6 lines 40-42 Chamberlin discloses that the lubricating oil contains a dispersant, and in column 13 lines 40 and 55-59 discloses that the composition can contain an anti-foam additive, both as recited in claim 58. In column 13 line 38 Chamberlin discloses that the composition can contain a corrosion inhibitor, as recited in claim 57. In the table in column 17 lines 30-63, Chamberlin discloses that aromatic amine and hindered phenolic antioxidants can be added to the composition, meeting the limitation of claim 56. The differences between Chamberlin and the currently presented claims are:

i) Chamberlin does not disclose a method using a fuel with a sulfur content falling within the ranges recited in the currently presented claims.

ii) Chamberlin does not disclose the specific types of particle trap amended claim 16.

With respect to i), In column 16 lines 40-44, Chamberlin discloses that the diesel fuel can have a sulfur content of up to 500 ppm (0.05%), encompassing the ranges recited in claims 22, 24-26, 42, and 44-46. See MPEP 2144.05(I): "In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976);" Claims 26, 42, and 44-46 are therefore rendered obvious, as are claims 27, 31, and 47, the limitations of which are met by Chamberlin as discussed in paragraph 5 above.

With respect to ii), In column 1 lines 4-8, Alcorn discloses a particulate trap for removing fine particle from a moving gas, such as a diesel exhaust gas. In column 2 lines 41-44, Alcorn discloses that the trap is continuously regenerating, as recited in claim 18. In the reference's claim 2, Alcorn discloses that the particles are removed by oxidation and in the reference's claim 13 discloses that the trap contains a catalyst for removing pollutants. It is therefore clear that the catalyst is an oxidation catalyst, as recited in claim 17. In column 8 lines 14-17 Alcorn discloses that the trap can also contain a filter, as recited in claim 17. The use of the continuously regenerating trap of Alcorn as the particulate trap in the method of Chamberlin therefore meets the limitations of claims 16, 21, 25-27, 29-41, 45-54, and 56-58.

4. Claims 16, 19-21, 25-27, 29-41, 45-54, and 56-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chamberlin in view of Cooper in light of the evidence provided by Twigg.

The discussion of Chamberlin in paragraph 3 above is incorporated here by reference. Chamberlin does not disclose the specific type of particle trap recited in amended claim 16, nor does Chamberlin specifically disclose a heavy duty diesel engine.

Cooper, in column 1 lines 4-56, discloses a particulate trap for diesel engines which comprises a filter and a catalyst. In column 2 lines 16-21, Cooper discloses that the trap contains a platinum or other platinum group metal oxidation catalyst. The trap of Cooper therefore meets the limitations of the trap of claim 16. The results shown in Figure 4 and discussed in column 10 lines 19-45 show that the trap is useful in heavy duty diesel engines, as recited in claim 20.

While Cooper does not refer to the trap as a continuously regenerating trap, Twigg, in column 1 lines 25-36, refers to the trap of Cooper as a continuously regenerating trap. The use of the trap of Cooper as the particle trap in the method of Chamberlin therefore meets the limitations of claim 16.

It would have been obvious to one of ordinary skill in the art to use the trap of Cooper as the particle trap in the method of Chamberlin, as Cooper teaches that the trap provides superior performance in removing particulates from heavy duty diesel exhaust streams.

5. Claims 28, 36, and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chamberlin in view of Alcorn as applied to claims 16, 21, 25-27, 29-41, 45-54, and 56-58 above, and further in view of Papay.

The discussion of Chamberlin and Alcorn in paragraph 3 above is incorporated here by reference. Chamberlin and Alcorn disclose a method meeting the limitations of claims 16, 21, and 27, and utilizing a zinc-free low-sulfur lubricating oil. In column 13 line 40 Chamberlin discloses that the composition can further contain a friction modifier.

In column 4 lines 53-63, Papay discloses additive systems for metal-free lubricating oils, and in column 7 lines 57-60 discloses that the lubricating oils can be used in diesel engines. From column 46 line 51 through column 47 line 12, Papay discloses that the composition can contain friction modifiers, including oleamide, glycerol oleates, amines, acids, and phosphate esters, all as recited in claims 28, 36, and 55.

It would have been obvious to one of ordinary skill in the art to use the specific friction modifiers of Papay as the friction modifier in the composition of Chamberlin and Alcorn, as Papay teaches that they are suitable friction modifier additives for metal-free lubricating oils for diesel engines.

6. Claims 28, 36, and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chamberlin in view of Cooper in light of the evidence provided by Twigg as applied to claims 16, 19-21, 25-27, 29-41, 45-54, and 56-58 above, and further in view of Papay.

The discussion of Chamberlin and Cooper in paragraph 3 above is incorporated here by reference. Chamberlin and Cooper disclose a method meeting the limitations of

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claims 16, 21, and 27, and utilizing a zinc-free low-sulfur lubricating oil. In column 13 line 40 Chamberlin discloses that the composition can further contain a friction modifier.

In column 4 lines 53-63, Papay discloses additive systems for metal-free lubricating oils, and in column 7 lines 57-60 discloses that the lubricating oils can be used in diesel engines. From column 46 line 51 through column 47 line 12, Papay discloses that the composition can contain friction modifiers, including oleamide, glycerol oleates, amines, acids, and phosphate esters, all as recited in claims 28, 36, and 55.

It would have been obvious to one of ordinary skill in the art to use the specific friction modifiers of Papay as the friction modifier in the composition of Chamberlin and Cooper, as Papay teaches that they are suitable friction modifier additives for metal-free lubricating oils for diesel engines.

Response to Arguments

7. Applicant's arguments filed 9/26/08 have been fully considered but they are not persuasive. Applicant argues that Chamberlin does not make reference nucleation mode particles. However, the Chamberlin reference is properly combined with either Alcorn or Twigg for the reasons noted in the above rejections, and the method of Chamberlin and Alcorn or Twigg would still reduce the number of nucleation mode particles. Applicant further argues that Chamberlin does not teach toward the use of low-sulfur diesel fuel. Chamberlin clearly teaches an embodiment where a low-sulfur diesel fuel is used. Chamberlin's broader teaching that any diesel fuel can be used does

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not constitute a teaching away, as one of ordinary skill in the art clearly would have had a reasonable expectation of success in using the low-sulfur diesel fuel taught by Chamberlin.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Goloboy whose telephone number is (571)272-2476. The examiner can normally be reached on M-F 9-5:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JCG

/Glenn A Caldarola/
Acting SPE of Art Unit 1797